

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

21415-0015US

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

10/534,130

#12

INTERNATIONAL APPLICATION NO.

PCT/AU03/01487

INTERNATIONAL FILING DATE

10 November 2003 (10.11.2003)

PRIORITY DATE CLAIMED

08 November 2002 (08.11.2002)

TITLE OF INVENTION

**A METHOD FOR OPTIMISING GENE EXPRESSION USING SYNONYMOUS CODON OPTIMISATION**

APPLICANT(S) FOR DO/EO/US

**Ian Hector FRAZER**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☐ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☒ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☐ The US has been elected (Article 31).
5. ☐ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ has been communicated by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☐ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ had been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11 to 20. below concern document(s) or information included:**

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included
13. ☐ A preliminary amendment.
14. ☐ An Application Data Sheet under 37 CFR 1.76.
15. ☐ A substitute specification.
16. ☐ A power of attorney and/or address letter.
17. ☒ A computer-readable form of the sequence listing in accordance with PCT Rule 132 and 37 CFR 1.821-1825
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4)
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: copy of Notice (dated 3/10/06)

|   |  |                               |  |                          |  |
|---|--|-------------------------------|--|--------------------------|--|
| U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.7) |  | INTERNATIONAL APPLICATION NO. |  | ATTORNEY'S DOCKET NUMBER |  |
| 10/534,130                                      |  | PCT/AU03/01487                |  | 21415-0015US             |  |

  

|  |              |   |            |   |    |
|--|--------------|---|------------|---|----|
| 21. The following fees are submitted: <div style="margin-left: 20px;"> <input type="checkbox"/> a) Basic national fee.....\$300.00<br/> <input type="checkbox"/> b) Examination fee .....\$200.00<br/> <input type="checkbox"/> c) Search fee.....\$500.00         </div>  |              |   |            | CALCULATIONS PTO USE ONLY<br>10/534,130<br>801641<br>081641<br>08880003<br>09/28/2006 BCAMPDEL 08880003 735.00 DA<br>01 FC:2254 |    |
| <b>TOTAL OF ABOVE CALCULATIONS =</b>   |              |   |            | \$  |    |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. |              |   |            | \$  |    |
| TOTAL SHEETS   | EXTRA SHEETS | NUMBER EXTRA (of each additional 50 or fraction thereof rounded up to a whole number) | RATE       |   |    |
| -100 =   | /50 =        |   | x \$250.00 |   |    |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(e)).   |              |   |            | \$  |    |
| CLAIMS   | NUMBER FILED | NUMBER EXTRA  | RATE       |   |    |
| Total claims   | - 20 =       |   | x \$50.00  | \$  |    |
| Independent claims   | - 3 =        |   | x \$200.00 | \$  |    |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable)  |              |   | + \$360.00 | \$  |    |
| <b>TOTAL OF ABOVE CALCULATIONS =</b>   |              |   |            | \$  |    |
| <input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.  |              |   |            | \$  |    |
| <b>SUBTOTAL =</b>  |              |   |            | \$  |    |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f))   |              |   |            | +   |    |
| <b>TOTAL NATIONAL FEE =</b>  |              |   |            | \$  |    |
| Fee for recording the enclose assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property  |              |   |            | +   |    |
| <b>TOTAL FEES ENCLOSED =</b>   |              |   |            | \$ (\$0 fees due)   |    |
|  |              |   |            | Amount to be refunded:  | \$ |
|  |              |   |            | Amount to be charged:   | \$ |

  

a. ☐ A check in the amount of \$\_\_\_\_\_ to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_ to cover the above fees.

A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment

To Deposit Account No. 08-1641 A duplicate copy of this sheet is enclosed.

d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

**HELLER EHRMAN LLP**  
 1717 Rhode Island Avenue, N.W.  
 Washington, DC 20036  
 Customer No. : 26633

SIGNATURE  
  
 NAME  
 Patricia D. Granados

Date  
 3/28/06

REGISTRATION NUMBER  
 33,683



**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

|   |  |                                |
|---|--|--------------------------------|
| U.S. APPLICATION NUMBER NO.<br>10/534,130 | FIRST NAMED APPLICANT<br>Ian Hector Frazer | ATTY. DOCKET NO.<br>21415-0015 |
|---|--|--------------------------------|

|   |
|---|
| INTERNATIONAL APPLICATION NO.<br>PCT/AU03/01487 |
|---|

|                                |                             |
|--------------------------------|-----------------------------|
| I.A. FILING DATE<br>11/10/2003 | PRIORITY DATE<br>11/08/2002 |
|--------------------------------|-----------------------------|

26633  
 HELLER EHRMAN WHITE & MCAULIFFE LLP  
 1717 RHODE ISLAND AVE, NW  
 WASHINGTON, DC 20036-3001

**CONFIRMATION NO. 8451**  
**371 FORMALITIES LETTER**  
  
 \*OC000000018255745\*

Date Mailed: 03/10/2006

**NOTIFICATION OF DEFECTIVE RESPONSE**

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495)

- Priority Document
- Copy of the International Application filed on 05/06/2005
- Copy of the International Search Report filed on 05/06/2005
- Copy of IPE Report filed on 05/06/2005
- Copy of Annexes to the IPER filed on 05/06/2005
- Preliminary Amendments filed on 12/30/2005
- Information Disclosure Statements filed on 12/30/2005
- Biochemical Sequence Diskette filed on 12/30/2005
- Oath or Declaration filed on 12/30/2005
- Biochemical Sequence Listing filed on 12/30/2005
- Copy of references cited in ISR filed on 12/30/2005
- U.S. Basic National Fees filed on 05/06/2005
- Priority Documents filed on 05/06/2005
- Power of Attorney filed on 12/30/2005
- Specification filed on 05/06/2005
- Claims filed on 05/06/2005
- Abstracts filed on 05/06/2005
- Paper nucleotide sequence listings filed on 05/06/2005

Applicant's response filed 12/30/2005 is hereby acknowledged. The following requirements set forth in the NOTIFICATION of MISSING REQUIREMENTS mailed 09/30/2005 have not been completed.

- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR

1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

BARBARA A CAMPBELL

Telephone: (703) 308-9140 EXT 217

PART 1 - ATTORNEY/APPLICANT COPY

| U.S. APPLICATION NUMBER NO. | INTERNATIONAL APPLICATION NO. | ATTY. DOCKET NO. |
|-----------------------------|-------------------------------|------------------|
| 10/534,130                  | PCT/AU03/01487                | 21415-0015       |

**STIC Biotechnology Systems Branch****RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/534,130  
Source: PCT  
Date Processed by STIC: 01/31/2006

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.2.2 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>) , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):  
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

## Raw Sequence Listing Error Summary

### ERROR DETECTED

### SUGGESTED CORRECTION

SERIAL NUMBER:

10/534,130

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1      Wrapped Nucleics  
    Wrapped Aminos      The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor **after** creating it. Please adjust your right margin to .3; this will prevent "wrapping."
  
- 2      Invalid Line Length      The rules require that a line **not exceed** 72 characters in length. This includes white spaces.
  
- 3      Misaligned Amino  
    Numbering      The numbering under each 5<sup>th</sup> amino acid is misaligned. Do **not** use tab codes between numbers; use **space characters**, instead.
  
- 4      Non-ASCII      The submitted file was **not** saved in ASCII(DOS) text, as **required** by the Sequence Rules. Please **ensure your subsequent submission is saved in ASCII text**.
  
- 5      Variable Length      Sequence(s)      contain n's or Xaa's representing more than one residue. **Per Sequence Rules, each n or Xaa can only represent a single residue.** Please present the **maximum** number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
  
- 6      PatentIn 2.0  
    "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)     . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. **This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.**
  
- 7      Skipped Sequences  
    (OLD RULES)      Sequence(s)      missing. If intentional, please insert the following lines for **each** skipped sequence:  
     (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
     (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
     (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
     This sequence is intentionally skipped  
  
     Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to **include** the skipped sequences.
  
- 8      Skipped Sequences  
    (NEW RULES)      Sequence(s)      missing. If **intentional**, please insert the following lines for **each** skipped sequence.  
     <210> sequence id number  
     <400> sequence id number  
     000
  
- 9      Use of n's or Xaa's  
    (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
     Per 1.823 of Sequence Rules, use of <220>-<223> is **MANDATORY** if n's or Xaa's are present.  
     In <220> to <223> section, please explain location of **n** or **Xaa**, and which residue **n** or **Xaa** represents.
  
- 10      Invalid <213>  
    Response      Per 1.823 of Sequence Rules, the only **valid** <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is **required** when <213> response is Unknown or is Artificial Sequence
  
- 11      Use of <220>      

Sequence(s)      missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is **MANDATORY** if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
  
- 12      PatentIn 2.0  
    "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
  
- 13      Misuse of n/Xaa      "n" can **only** represent a single nucleotide; "Xaa" can **only** represent a single amino acid



PCT

## RAW SEQUENCE LISTING

DATE: 01/31/2006

PATENT APPLICATION: US/10/534,130

TIME: 16:12:34

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

3 <110> APPLICANT: Ian Hector Frazer  
 5 <120> TITLE OF INVENTION: A method for optimising gene expression using  
 6 synonymous codon optimisation  
 8 <130> FILE REFERENCE: 21415-0015US  
 C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/534,130  
 11 <141> CURRENT FILING DATE: 2005-05-06  
 13 <150> PRIOR APPLICATION NUMBER: PCT/AU2003/001487  
 14 <151> PRIOR FILING DATE: 2003-11-10  
 16 <150> PRIOR APPLICATION NUMBER: USSN 60/425,163  
 17 <151> PRIOR FILING DATE: 2002-11-08  
 19 <160> NUMBER OF SEQ ID NOS: 126  
 21 <170> SOFTWARE: PatentIn version 3.2  
 23 <210> SEQ ID NO: 1  
 24 <211> LENGTH: 714  
 25 <212> TYPE: DNA  
 26 <213> ORGANISM: Artificial Sequence  
 28 <220> FEATURE:  
 29 <223> OTHER INFORMATION: Humanised GFP  
 32 <220> FEATURE:  
 33 <221> NAME/KEY: CDS  
 34 <222> LOCATION: (1)..(711)  
 36 <400> SEQUENCE: 1  
 37 agc aag ggc gag gaa ctg ttc act ggc gtg gtc cca att ctc gtg gaa 48  
 38 Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu  
 39 1 5 10 15  
 41 ctg gat ggc gat gtg aat ggg cac aaa ttt tct gtc agc gga gag ggt 96  
 42 Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly  
 43 20 25 30  
 45 gaa ggt gat gcc aca tac gga aag ctc acc ctg aaa ttc atc tgc acc 144  
 46 Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr  
 47 35 40 45  
 49 act gga aag ctc cct gtg cca tgg cca aca ctg gtc act acc ttc tct 192  
 50 Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Ser  
 51 50 55 60  
 53 tat ggc gtg cag tgc ttt tcc aga tac cca gac cat atg aag cag cat 240  
 54 Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln His  
 55 65 70 75 80  
 57 gac ttt ttc aag agc gcc atg ccc gag ggc tat gtg cag gag aga acc 288  
 58 Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr  
 59 85 90 95  
 61 atc ttt ttc aaa gat gac ggg aac tac aag acc cgc gct gaa gtc aag 336  
 62 Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys  
 63 100 105 110

Does Not Comply  
 Corrected Diskette Needed

(pg-3,4,5)

## RAW SEQUENCE LISTING

DATE: 01/31/2006

PATENT APPLICATION: US/10/534,130

TIME: 16:12:34

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

```

65 ttc gaa ggt gac acc ctg gtg aat aga atc gag ctg aag ggc att gac      384
66 Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp
67      115                      120                      125
69 ttt aag gag gat gga aac att ctc ggc cac aag ctg gaa tac aac tat      432
70 Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr
71      130                      135                      140
73 aac tcc cac aat gtg tac atc atg gcc gac aag caa aag aat ggc atc      480
74 Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile
75 145                      150                      155                      160
77 aag gtc aac ttc aag atc aga cac aac att gag gat gga tcc gtg cag      528
78 Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val Gln
79      165                      170                      175
81 ctg gcc gac cat tat caa cag aac act cca atc ggc gac ggc cct gtg      576
82 Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val
83      180                      185                      190
85 ctc ctc cca gac aac cat tac ctg tcc acc cag tct gcc ctg tct aaa      624
86 Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys
87      195                      200                      205
89 gat ccc aac gaa aag aga gac cac atg gtc ctg ctg gag ttt gtg acc      672
90 Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr
91      210                      215                      220
93 gct gct ggg atc aca cat ggc atg gac gag ctg tac aag tga      714
94 Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys
95 225                      230                      235
98 <210> SEQ ID NO: 2
99 <211> LENGTH: 237
100 <212> TYPE: PRT
101 <213> ORGANISM: Artificial Sequence
103 <220> FEATURE:
104 <223> OTHER INFORMATION: Humanised GFP
106 <400> SEQUENCE: 2
108 Ser Lys Gly Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu
109 1      5                      10                      15
112 Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly
113      20                      25                      30
116 Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr
117      35                      40                      45
120 Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Phe Ser
121      50                      55                      60
124 Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln His
125 65                      70                      75                      80
128 Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr
129      85                      90                      95
132 Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys
133      100                      105                      110
136 Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp
137      115                      120                      125
140 Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr
141      130                      135                      140

```



## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/534,130

DATE: 01/31/2006

TIME: 16:12:34

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

144 Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile  
 145 145 150 155 160  
 148 Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser Val Gln  
 149 165 170 175  
 152 Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val  
 153 180 185 190  
 156 Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys  
 157 195 200 205  
 160 Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr  
 161 210 215 220  
 164 Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys  
 165 225 230 235

168 <210> SEQ ID NO: 3  
 169 <211> LENGTH: 18  
 170 <212> TYPE: DNA  
 171 <213> ORGANISM: Artificial Sequence  
 173 <220> FEATURE:  
 174 <223> OTHER INFORMATION: Ala(GCA)x6  
 177 <220> FEATURE:  
 178 <221> NAME/KEY: CDS  
 179 <222> LOCATION: (1)..(18)  
 181 <400> SEQUENCE: 3

182 gca gca gca gca gca gca  
 183 Ala Ala Ala Ala Ala Ala  
 184 1 5

18

187 <210> SEQ ID NO: 4  
 188 <211> LENGTH: 6  
 189 <212> TYPE: PRT  
 190 <213> ORGANISM: Artificial Sequence  
 192 <220> FEATURE:  
 193 <223> OTHER INFORMATION: Ala(GCA)x6  
 195 <400> SEQUENCE: 4  
 197 Ala Ala Ala Ala Ala Ala

198 1 5  
 201 <210> SEQ ID NO: 5  
 202 <211> LENGTH: 18  
 203 <212> TYPE: DNA  
 204 <213> ORGANISM: Artificial Sequence  
 206 <220> FEATURE:  
 207 <223> OTHER INFORMATION: Ala(GCG)x6  
 210 <220> FEATURE:

211 <221> NAME/KEY: CDS  
 212 <222> LOCATION: (1)..(18)  
 214 <400> SEQUENCE: 5

215 gcg gcg gcg gcg gcg gcg  
 216 Ala Ala Ala Ala Ala Ala  
 217 1 5

18

220 <210> SEQ ID NO: 6  
 221 <211> LENGTH: 6

Invalid Response.  
 Pls Explain the Source of  
 genetic Material. See Item  
 #11 on Error Summary  
 Sheet.

Same Error

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/534,130

DATE: 01/31/2006

TIME: 16:12:34

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

222 <212> TYPE: PRT  
223 <213> ORGANISM: Artificial Sequence  
225 <220> FEATURE:

226 <223> OTHER INFORMATION: Ala(GCG)x6

228 <400> SEQUENCE: 6

230 Ala Ala Ala Ala Ala Ala

231 1 5

234 <210> SEQ ID NO: 7

235 <211> LENGTH: 18

236 <212> TYPE: DNA

237 <213> ORGANISM: Artificial Sequence

239 <220> FEATURE:

240 <223> OTHER INFORMATION: Ala(GCT)x6

243 <220> FEATURE:

244 <221> NAME/KEY: CDS

245 <222> LOCATION: (1)..(18)

247 <400> SEQUENCE: 7

248 gct gct gct gct gct gct

249 Ala Ala Ala Ala Ala Ala

250 1 5

253 <210> SEQ ID NO: 8

254 <211> LENGTH: 6

255 <212> TYPE: PRT

256 <213> ORGANISM: Artificial Sequence

258 <220> FEATURE:

259 <223> OTHER INFORMATION: Ala(GCT)x6

261 <400> SEQUENCE: 8

263 Ala Ala Ala Ala Ala Ala

264 1 5

267 <210> SEQ ID NO: 9

268 <211> LENGTH: 18

269 <212> TYPE: DNA

270 <213> ORGANISM: Artificial Sequence

272 <220> FEATURE:

273 <223> OTHER INFORMATION: Ala(GCC)x6

276 <220> FEATURE:

277 <221> NAME/KEY: CDS

278 <222> LOCATION: (1)..(18)

280 <400> SEQUENCE: 9

281 gcc gcc gcc gcc gcc gcc

282 Ala Ala Ala Ala Ala Ala

283 1 5

286 <210> SEQ ID NO: 10

287 <211> LENGTH: 6

288 <212> TYPE: PRT

289 <213> ORGANISM: Artificial Sequence

291 <220> FEATURE:

292 <223> OTHER INFORMATION: Ala(GCC)x6

294 <400> SEQUENCE: 10

18

18

*Same Error*

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/534,130

DATE: 01/31/2006

TIME: 16:12:34

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

296 Ala Ala Ala Ala Ala Ala

297 1 5

300 &lt;210&gt; SEQ ID NO: 11

301 &lt;211&gt; LENGTH: 18

302 &lt;212&gt; TYPE: DNA

303 &lt;213&gt; ORGANISM: Artificial Sequence

305 &lt;220&gt; FEATURE:

306 &lt;223&gt; OTHER INFORMATION: Arg (AGA) x6

309 &lt;220&gt; FEATURE:

310 &lt;221&gt; NAME/KEY: CDS

311 &lt;222&gt; LOCATION: (1)..(18)

313 &lt;400&gt; SEQUENCE: 11

314 aga aga aga aga aga aga

315 Arg Arg Arg Arg Arg Arg

316 1 5

319 &lt;210&gt; SEQ ID NO: 12

320 &lt;211&gt; LENGTH: 6

321 &lt;212&gt; TYPE: PRT

322 &lt;213&gt; ORGANISM: Artificial Sequence

324 &lt;220&gt; FEATURE:

325 &lt;223&gt; OTHER INFORMATION: Arg (AGA) x6

327 &lt;400&gt; SEQUENCE: 12

329 Arg Arg Arg Arg Arg Arg

330 1 5

333 &lt;210&gt; SEQ ID NO: 13

334 &lt;211&gt; LENGTH: 18

335 &lt;212&gt; TYPE: DNA

336 &lt;213&gt; ORGANISM: Artificial Sequence

338 &lt;220&gt; FEATURE:

339 &lt;223&gt; OTHER INFORMATION: Arg (CGA) x6

342 &lt;220&gt; FEATURE:

343 &lt;221&gt; NAME/KEY: CDS

344 &lt;222&gt; LOCATION: (1)..(18)

346 &lt;400&gt; SEQUENCE: 13

347 cga cga cga cga cga cga

348 Arg Arg Arg Arg Arg Arg

349 1 5

352 &lt;210&gt; SEQ ID NO: 14

353 &lt;211&gt; LENGTH: 6

354 &lt;212&gt; TYPE: PRT

355 &lt;213&gt; ORGANISM: Artificial Sequence

357 &lt;220&gt; FEATURE:

358 &lt;223&gt; OTHER INFORMATION: Arg (CGA) x6

360 &lt;400&gt; SEQUENCE: 14

362 Arg Arg Arg Arg Arg Arg

363 1 5

366 &lt;210&gt; SEQ ID NO: 15

367 &lt;211&gt; LENGTH: 18

368 &lt;212&gt; TYPE: DNA

18

18

*same error*

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/534,130

DATE: 01/31/2006

TIME: 16:12:35

Input Set : A:\PTO.TS.31.txt

Output Set: N:\CRF4\01312006\J534130.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number